

DOES FROZEN ATMOSPHERIC WATER VAPOUR DISPROVE A 40-YEAR OLD THEOREM?

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In [2] Snow considered the minimum arity needed to generate the bicentralizer clone of a finite algebra. Under certain assumptions on the algebra he produced quite satisfactory upper bounds for this number. More interestingly, in [2] a class of examples of algebras on k -element carrier sets is given, for which Snow proves $(k - 1)^2$ to be a lower bound for this minimum arity. Explicitly, when $k = 3$, this lower bound is equal to 4, which means that arity three or less does not suffice to generate the bicentralizer clone of that specific algebra.

On the other hand, A. F. Daniľčenko in [1] proved that every centralizer clone on a three-element domain is the centralizer of a collection of (parametrically indecomposable) at most ternary operations. This implies that every centralizer clone on a three-element set is bicentrically generated by its ternary members, seeming to contradict the examples constructed by Snow.

In the talk we shall contrast both works and solve the mystery of this presumable contradiction.

REFERENCES

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- [2] John W. Snow. Generating primitive positive clones. *Algebra Universalis*, 44(1-2):169–185, 2000. 10.1007/s000120050179.

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